

FILE 'HOME' ENTERED AT 16:29:09 ON 08 APR 2003

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 16:29:18 ON 08 APR 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 APR 2003 HIGHEST RN 502131-66-0

DICTIONARY FILE UPDATES: 7 APR 2003 HIGHEST RN 502131-66-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09901657-b.str

L2 STRUCTURE UPLOADED

=> que L2 AND L1

L3 QUE L2 AND L1

=> d

L3 HAS NO ANSWERS

L1 SCR 2067

L2 STR

STN-CAS
SEARCH

Do Not Remove!

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 129-64-6 REGISTRY

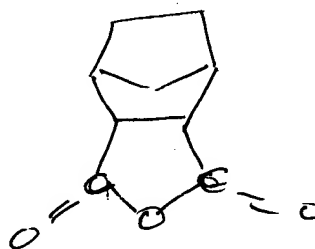
CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-,
(3aR,4S,7R,7aS)-rel- (9CI) (CA INDEX NAME)

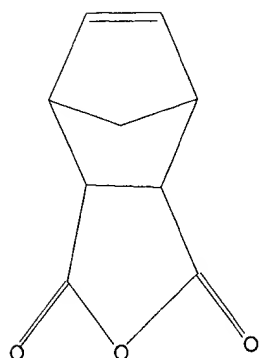
OTHER CA INDEX NAMES:

CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-,
(3a.alpha.,4.alpha.,7.alpha.,7a.alpha.)-; 5-Norbornene-2,3-dicarboxylic
anhydride, cis-endo- (8CI)

OTHER NAMES:

CN 5-Norbornene-endo-2,3-dicarboxylic anhydride; Bicyclo[2.2.1]hept-5-ene-2-
endo,3-endo-dicarboxylic anhydride; Bicyclo[2.2.1]-2-heptene-endo-5,6-
dicarboxylic acid anhydride; Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic
acid endo-cis-anhydride; Carbic anhydride; cis-3,6-endo-Methylene-
1,2,3,6-tetrahydrophthalic anhydride; cis-5-Norbornene-endo-2,3-
dicarboxylic anhydride; Endic anhydride; endo,cis-5-Norbornene-2,3-
dicarboxylic anhydride; endo-3,6-Methylene-1,2,3,6-tetrahydrophthalic
anhydride; endo-3,6-Methylene-4-cyclohexene-1,2-dicarboxylic anhydride;
endo-5-Norbornene-2,3-dicarboxylic anhydride; endo-Bicyclo[2.2.1]hept-2-
ene-5,6-dicarboxylic anhydride; endo-Bicyclo[2.2.1]hept-5-ene-2,3-
dicarboxylic anhydride; endo-cis-3,6-endo-Methylene-.DELTA.4-
tetrahydrophthalic anhydride; endo-cis-Bicyclo[2.2.1]hept-5-ene-2,3-
dicarboxylic anhydride; endo-cis-Bicyclo[2.2.1]hept-5-ene-2,3-
dicarboxylic acid anhydride; endo-Himic acid anhydride;
endo-Norbornene-2,3-dicarboxylic acid anhydride; Kayahard CD; Nadic acid
anhydride; Nadic anhydride





Structure attributes must be viewed using STN Express query preparation.

L3 QUE ABB=ON PLU=ON L2 AND L1

=> s l3 sss sam

SAMPLE SEARCH INITIATED 16:29:41 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1404 TO ITERATE

71.2% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

50 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 25833 TO 30327
PROJECTED ANSWERS: 1205 TO 2333

L4 50 SEA SSS SAM L2 AND L1

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 2067

L5 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09901657-a.str

L6 STRUCTURE UPLOADED

=> que L6 AND L5

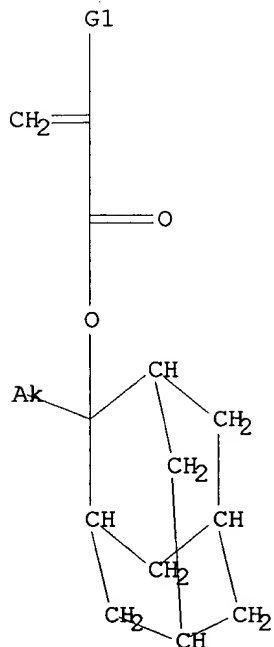
L7 QUE L6 AND L5

=> d

L7 HAS NO ANSWERS

L5 SCR 970 AND 2067

L6 STR



G1 H, Me

Structure attributes must be viewed using STN Express query preparation.
L7 QUE ABB=ON PLU=ON L6 AND L5

=> s 17 sss sam

SAMPLE SEARCH INITIATED 16:30:58 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 241 TO ITERATE

100.0% PROCESSED 241 ITERATIONS

48 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 3889 TO 5751

PROJECTED ANSWERS: 545 TO 1375

L8 48 SEA SSS SAM L6 AND L5

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L9 SCREEN CREATED

=>

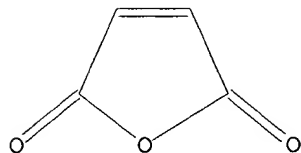
Uploading C:\Program Files\Stnexp\Queries\maleic anhydride.str

L10 STRUCTURE UPLOADED

=> que L10 AND L9

L11 QUE L10 AND L9

=> d
L11 HAS NO ANSWERS
L9 SCR 2067
L10 STR



Structure attributes must be viewed using STN Express query preparation.
L11 QUE ABB=ON PLU=ON L10 AND L9

=> s l11 sss sam
SAMPLE SEARCH INITIATED 16:31:52 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 3510 TO ITERATE

28.5% PROCESSED 1000 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 66648 TO 73752
PROJECTED ANSWERS: 55234 TO 61718

L12 50 SEA SSS SAM L10 AND L9

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 1015 AND 2067

L13 SCREEN CREATED

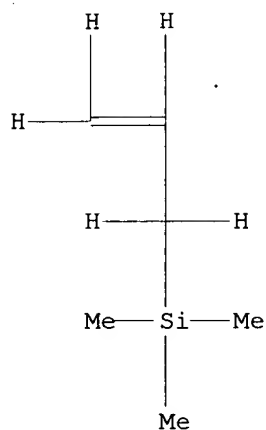
=>
Uploading C:\Program Files\Stnexp\Queries\allyltrimethylsilane.str

L14 STRUCTURE UPLOADED

=> que L14 AND L13

L15 QUE L14 AND L13

=> d
L15 HAS NO ANSWERS
L13 SCR 970 AND 1015 AND 2067
L14 STR



Structure attributes must be viewed using STN Express query preparation.
 L15 QUE ABB=ON PLU=ON L14 AND L13

=> s l15 sss sam
 SAMPLE SEARCH INITIATED 16:32:28 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 204 TO ITERATE

100.0% PROCESSED 204 ITERATIONS 11 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 3224 TO 4936
 PROJECTED ANSWERS: 22 TO 418

L16 11 SEA SSS SAM L14 AND L13

=> s l4 and l8 and l12 and l16
 L17 0 L4 AND L8 AND L12 AND L16

| | | |
|--------------------------------|------------|---------|
| => FIL CAPLUS HCAPLUS USPATFUL | | |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL |
| | ENTRY | SESSION |
| FULL ESTIMATED COST | 2.40 | 2.61 |

FILE 'CAPLUS' ENTERED AT 16:32:50 ON 08 APR 2003
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'HCAPLUS' ENTERED AT 16:32:50 ON 08 APR 2003
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 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 16:32:50 ON 08 APR 2003
 CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l4 and l8 and l12 and l16
 L18 0 L4 AND L8 AND L12 AND L16

=>

```

=> s 117
L19          0 L17

=> s 14
L20          143 L4

=> s 18
L21          176 L8

=> s 112
L22          143 L12

=> s 116
L23          28 L16

=> s (120 or 122)
L24          284 (L20 OR L22)

=> s 124 and 121 and 123
L25          0 L24 AND L21 AND L23

=> s 124 and 121
L26          34 L24 AND L21

=> s 124 and 123
L27          0 L24 AND L23

=> s 121 and 123
L28          4 L21 AND L23

=> s 126 or 128
L29          38 L26 OR L28

=> duplicate
ENTER REMOVE, IDENTIFY, ONLY, OR (?):remove
ENTER L# LIST OR (END):129
DUPLICATE PREFERENCE IS 'CAPLUS, HCAPLUS, USPATFULL'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L29
L30          20 DUPLICATE REMOVE L29 (18 DUPLICATES REMOVED)

=> d 130 1-20 ibib hitstr abs

```

```

L30  ANSWER 1 OF 20  CAPLUS  COPYRIGHT 2003 ACS          DUPLICATE 1
ACCESSION NUMBER:      2003:20986  CAPLUS
DOCUMENT NUMBER:       138:98194
TITLE:                 Positive photosensitive composition
INVENTOR(S):           Fujimori, Toru
PATENT ASSIGNEE(S):    Fuji Photo Film Co., Ltd., Japan
SOURCE:                Eur. Pat. Appl., 135 pp.
                      CODEN: EPXXDW
DOCUMENT TYPE:         Patent
LANGUAGE:              English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

```

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| EP 1273970 | A2 | 20030108 | EP 2002-14889 | 20020705 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |
| IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK | | | | |
| JP 2003021905 | A2 | 20030124 | JP 2001-206637 | 20010706 |

| | | | | |
|------------------------|----|----------|----------------|------------|
| JP 2003098672 | A2 | 20030404 | JP 2001-287112 | 20010920 |
| JP 2003084441 | A2 | 20030319 | JP 2002-196113 | 20020704 |
| PRIORITY APPLN. INFO.: | | | JP 2001-204969 | A 20010705 |
| | | | JP 2001-206637 | A 20010706 |
| | | | JP 2001-287112 | A 20010920 |

IT **398140-71-1P 398140-88-0P 398141-14-5P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photosensitive compn. contg.)

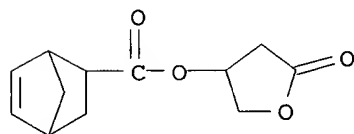
RN 398140-71-1 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)
(CA INDEX NAME)

CM 1

CRN 398140-70-0

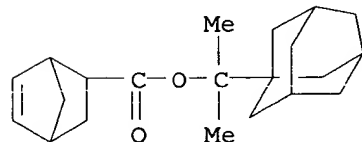
CMF C12 H14 O4



CM 2

CRN 328087-76-9

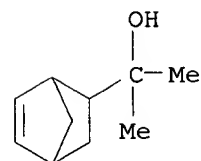
CMF C21 H30 O2



CM 3

CRN 22497-08-1

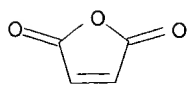
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



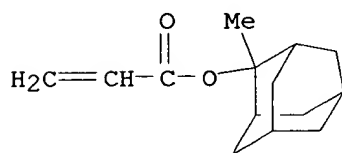
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-
yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

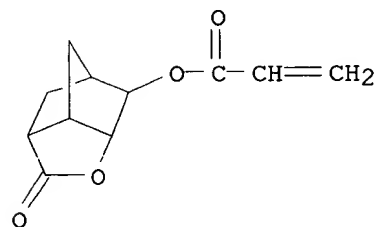
CMF C14 H20 O2



CM 2

CRN 242129-35-7

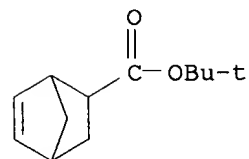
CMF C11 H12 O4



CM 3

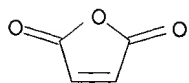
CRN 154970-45-3

CMF C12 H18 O2



CM 4

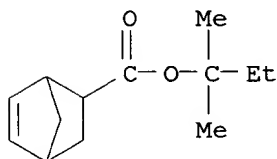
CRN 108-31-6
CMF C4 H2 O3



RN 398141-14-5 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

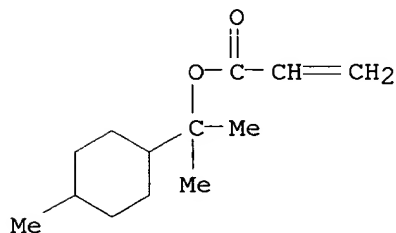
CM 1

CRN 398140-58-4
CMF C13 H20 O2



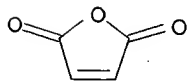
CM 2

CRN 342648-11-7
CMF C13 H22 O2



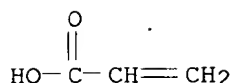
CM 3

CRN 108-31-6
CMF C4 H2 O3



CM 4

CRN 79-10-7
CMF C3 H4 O2



AB A pos. photosensitive compn. comprises (A) an acid generator that generates an acid upon irradiation of an actinic ray or radiation, (B) a resin that has a monocyclic or polycyclic alicyclic hydrocarbon structure and is decomposed by the action of an acid to increase solubility in an alkali developing solution, and (C) a specific basic compound. The present invention relates to a pos. photosensitive compound used in the production process of semiconductor devices and in other photofabrication processes. The present invention relates to a pos. photosensitive compound suitable for use with a far UV ray of wavelength 250 nm as a light source for exposure.

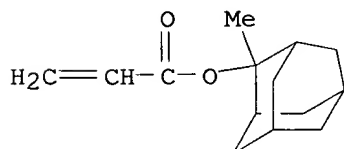
L30 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
 ACCESSION NUMBER: 2002:904532 CAPLUS
 DOCUMENT NUMBER: 137:391087
 TITLE: Positive-working photoresist compositions containing specific resin and specific acid-generator
 INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 105 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| JP 2002341539 | A2 | 20021127 | JP 2001-149620 | 20010518 |
| US 2003008241 | A1 | 20030109 | US 2002-93411 | 20020311 |
| PRIORITY APPLN. INFO.: | | | JP 2001-68849 | A 20010312 |
| | | | JP 2001-68850 | A 20010312 |
| | | | JP 2001-149620 | A 20010518 |

IT **398140-88-0P 398141-14-5P**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resin; pos.-working photoresist compounds.)
 RN 398140-88-0 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

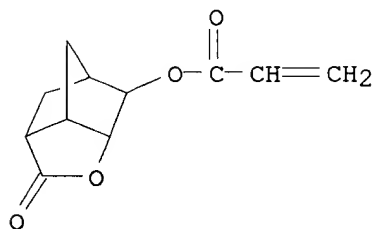
CRN 249562-06-9
 CMF C14 H20 O2



CM 2

CRN 242129-35-7

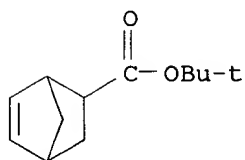
CMF C11 H12 O4



CM 3

CRN 154970-45-3

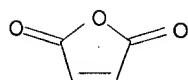
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



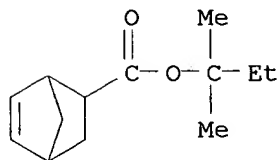
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

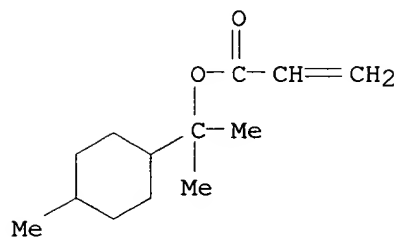
CMF C13 H20 O2



CM 2

CRN 342648-11-7

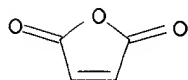
CMF C13 H22 O2



CM 3

CRN 108-31-6

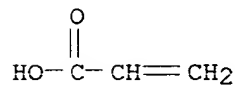
CMF C4 H2 O3



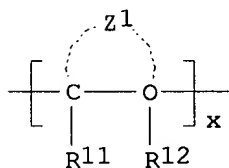
CM 4

CRN 79-10-7

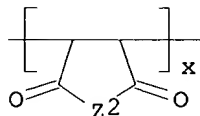
CMF C3 H4 O2



GI



I



II

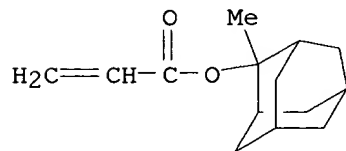
AB The title compn. contains a resin increasing the soly. towards an alkali developer by reacting with an acid and actinic ray- or radiation-sensitive acid-generator, wherein the resin has repeating unit I (R11'-12' = H, cyano, halo, alkyl; Z' = alicyclic residue), repeating unit II (Z2 = -O-, -N(R41)-; R41 = H, OH, alkyl, etc.), and [CH2-C(R91)(-CO-X-Q-R92)] (R91 = H, lower alkyl, halo, CN; X5 = -O-, -S-, -NR93-, -NR93SO2-; R93 = H, alkyl; Q = single bond, connecting group) and wherein the acid-generator has structure (R1)(R2)(R3)S+ X- or R4-I+-R5 X- (R1-5 = aliph. hydrocarbon, arom. hydrocarbon; X- = R6-SO2-N--SO2=R7,

R8-SO2-C-(SO2-R10)-SO2-R9; R6-10 = aliph. hydrocarbon). The compn. provides the photoresist of the high resolu. and the wide margin for the exposure conditions for.

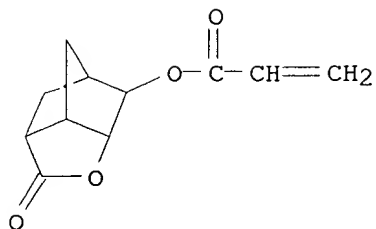
L30 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
ACCESSION NUMBER: 2002:848227 CAPLUS
DOCUMENT NUMBER: 137:360309
TITLE: Radiation-sensitive positive resist compositions
showing wide defocus latitude and less particle
generation on storage
INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 2002323767 | A2 | 20021108 | JP 2001-157366 | 20010525 |
| US 2003017415 | A1 | 20030123 | US 2002-79414 | 20020222 |
| PRIORITY APPLN. INFO.: | | | JP 2001-48602 A | 20010223 |
| | | | JP 2001-48783 A | 20010223 |
| | | | JP 2001-48784 A | 20010223 |
| | | | JP 2001-48880 A | 20010223 |
| | | | JP 2001-157366 A | 20010525 |
| | | | JP 2001-157367 A | 20010525 |

IT **398140-88-0P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(radiation-sensitive pos. resist compns. showing wide defocus latitude and less particle generation on storage)
RN 398140-88-0 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)
CM 1
CRN 249562-06-9
CMF C14 H20 O2



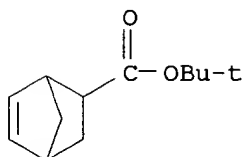
CM 2
CRN 242129-35-7
CMF C11 H12 O4



CM 3

CRN 154970-45-3

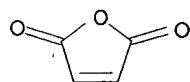
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



IT 398140-71-1 398141-14-5

RL: TEM (Technical or engineered material use); USES (Uses)
(radiation-sensitive pos. resist compns. showing wide defocus latitude
and less particle generation on storage)

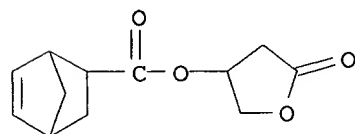
RN 398140-71-1 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-
tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-
dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and
tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)
(CA INDEX NAME)

CM 1

CRN 398140-70-0

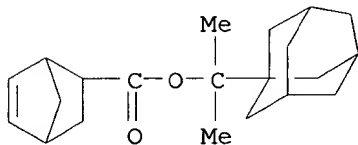
CMF C12 H14 O4



CM 2

CRN 328087-76-9

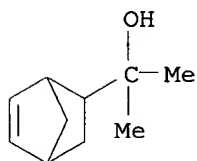
CMF C21 H30 O2



CM 3

CRN 22497-08-1

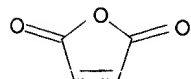
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



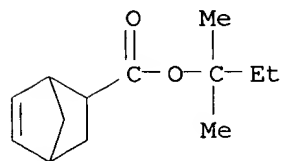
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

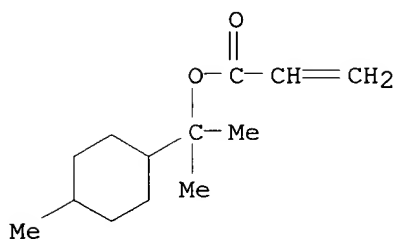
CMF C13 H20 O2



CM 2

CRN 342648-11-7

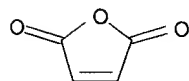
CMF C13 H22 O2



CM 3

CRN 108-31-6

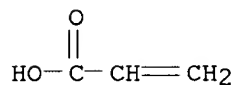
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



AB The compns., esp. suited for deep-UV lithog., comprise acid generators contg. triarylsulfonium salts and phenathylsulfonium salts, alicyclic hydrocarbon resins increasing alkali soly. upon reaction with acids, bases, and fluoro and/or silicone surfactants,. The compns. may contain OH-bearing and -free solvent mixts.

L30 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 4

ACCESSION NUMBER: 2002:848220 CAPLUS

DOCUMENT NUMBER: 137:360306

TITLE: Radiation-sensitive positively working photosensitive composition

INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 92 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2002323758 | A2 | 20021108 | JP 2001-157367 | 20010525 |
| US 2003017415 | A1 | 20030123 | US 2002-79414 | 20020222 |

PRIORITY APPLN. INFO.:

| | | |
|----------------|---|----------|
| JP 2001-48783 | A | 20010223 |
| JP 2001-48602 | A | 20010223 |
| JP 2001-48784 | A | 20010223 |
| JP 2001-48880 | A | 20010223 |
| JP 2001-157366 | A | 20010525 |
| JP 2001-157367 | A | 20010525 |

IT **398140-88-0P 398141-14-5P 474510-67-3P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(radiation-sensitive pos. working photosensitive compn. for high resolu. and storage stability)

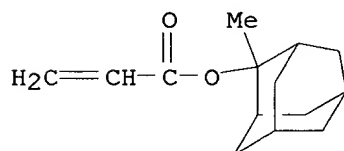
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

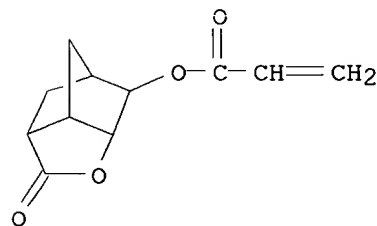
CMF C14 H20 O2



CM 2

CRN 242129-35-7

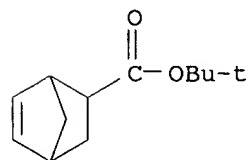
CMF C11 H12 O4



CM 3

CRN 154970-45-3

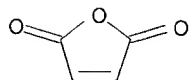
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



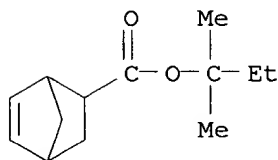
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

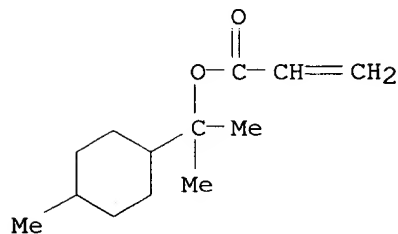
CMF C13 H20 O2



CM 2

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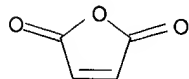
CMF C13 H22 O2



CM 3

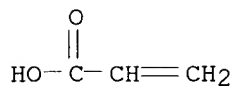
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CMF C4 H2 O3



CM 4

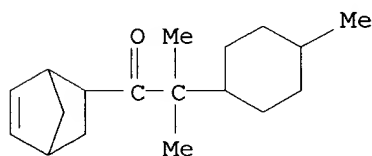
CRN 79-10-7
CMF C3 H4 O2



RN 474510-67-3 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 1-bicyclo[2.2.1]hept-5-en-2-yl-2-methyl-2-(4-methylcyclohexyl)-1-propanone, 5-ethoxy-3a,4,5,6,7,7a-hexahydro-4,7-methano-1H-indene and 2,5-furandione (9CI) (CA INDEX NAME)

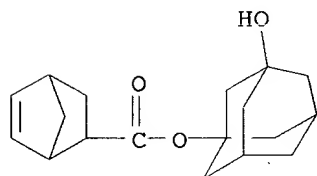
CM 1

CRN 474510-66-2
CMF C18 H28 O



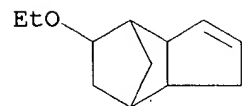
CM 2

CRN 331866-92-3
CMF C18 H24 O3



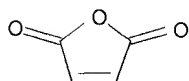
CM 3

CRN 53018-26-1
CMF C12 H18 O



CM 4

CRN 108-31-6
CMF C4 H2 O3

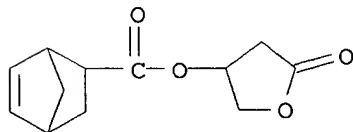


AB The compn. comprises (A) acid generator sensitive to actinic ray or radiation, (B) (poly)alicyclic hydrocarbon polymer which becomes alkali sol. by acid decompn., (C) basic compd., and (D) fluoro and/or silicone surfactant, where the acid generator contains .gtoreq.1 compd. having a phenacyl sulfonium salt structure and .gtoreq.1 nonarom. sulfonium salt. The compn. provides a photoresist having high resoln. and wide defocus latitude by exposure with a ring-shaped light source and a photoresist having good pattern profile by exposure with a half-tone phase-shift mask. Generation of particles under storage of the compn. is suppressed.

L30 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
ACCESSION NUMBER: 2002:792710 CAPLUS
DOCUMENT NUMBER: 137:317922
TITLE: Positive photoresist compositions offering sharp patterns
INVENTOR(S): Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 85 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2002303984 | A2 | 20021018 | JP 2001-135245 | 20010502 |

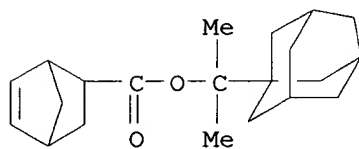
PRIORITY APPLN. INFO.: JP 2001-22010 A 20010130
OTHER SOURCE(S): MARPAT 137:317922
IT **398140-71-1P 398140-88-0P 398141-14-5P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresist compns. offering sharp patterns)
RN 398140-71-1 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)
CM 1
CRN 398140-70-0
CMF C12 H14 O4



CM 2

CRN 328087-76-9

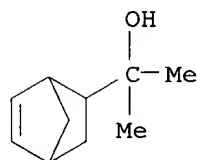
CMF C21 H30 O2



CM 3

CRN 22497-08-1

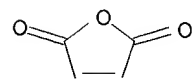
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



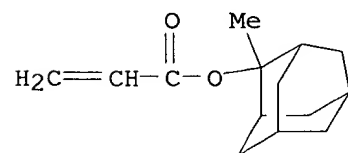
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

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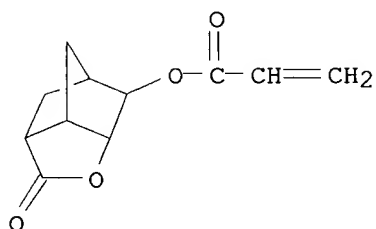
CRN 249562-06-9

CMF C14 H20 O2



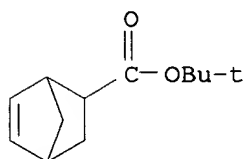
CM 2

CRN 242129-35-7
CMF C11 H12 O4



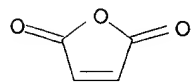
CM 3

CRN 154970-45-3
CMF C12 H18 O2



CM 4

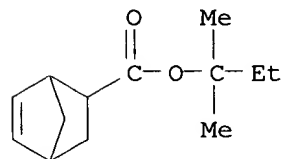
CRN 108-31-6
CMF C4 H2 O3



RN 398141-14-5 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

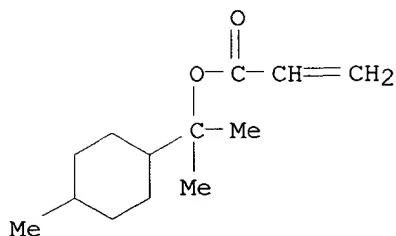
CRN 398140-58-4
CMF C13 H20 O2



CM 2

CRN 342648-11-7

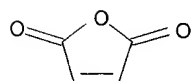
CMF C13 H22 O2



CM 3

CRN 108-31-6

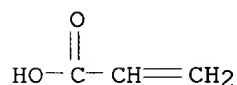
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



AB The pos. photoresist compns. which give fine patterns with good profile, smoother line edges, and no top profile erosion for ArF excimer laser lithog. contain (A) resins which have alicyclic hydrocarbon groups and increase soly. speed to alkali developers by acids, (B) compds. which generate acids by actinic light or radiation, and (C) acetals shown as R101OCHMeOR102 or R102OCHMeOR102 (R101, R102 = alkyl which may have linear, branched, or cyclic substituents).

L30 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 6

ACCESSION NUMBER: 2002:673047 CAPLUS

DOCUMENT NUMBER: 137:224108

TITLE: Storage-stable excimer laser-sensitive positive-working photosensitive compositions with reduced pattern variation on defocusing

INVENTOR(S): Kodama, Kunihiko; Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 86 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2002251012 | A2 | 20020906 | JP 2001-48784 | 20010223 |
| US 2003017415 | A1 | 20030123 | US 2002-79414 | 20020222 |

PRIORITY APPLN. INFO.:

| | | |
|----------------|---|----------|
| JP 2001-48602 | A | 20010223 |
| JP 2001-48783 | A | 20010223 |
| JP 2001-48784 | A | 20010223 |
| JP 2001-48880 | A | 20010223 |
| JP 2001-157366 | A | 20010525 |
| JP 2001-157367 | A | 20010525 |

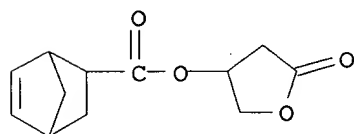
IT **398140-71-1P 398140-88-0P**, tert-Butyl norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl acrylate-norbornenelactone acrylate copolymer **398141-14-5P**
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)

RN 398140-71-1 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

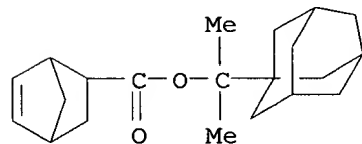
CM 1

CRN 398140-70-0
 CMF C12 H14 O4



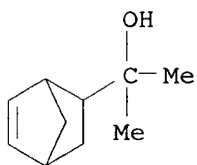
CM 2

CRN 328087-76-9
 CMF C21 H30 O2



CM 3

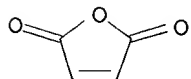
CRN 22497-08-1
 CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



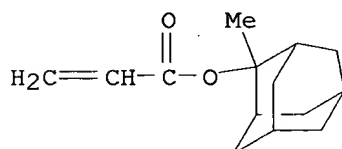
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

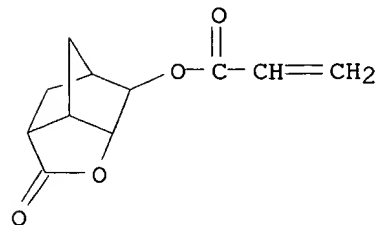
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CM 2

CRN 242129-35-7

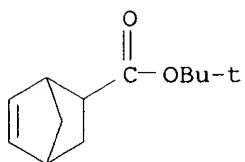
CMF C11 H12 O4



CM 3

CRN 154970-45-3

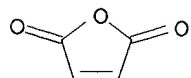
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



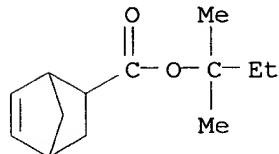
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

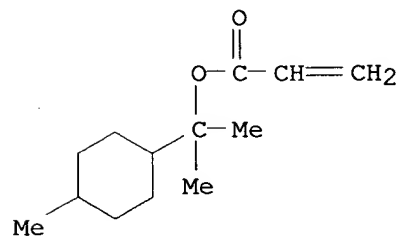
CMF C13 H20 O2



CM 2

CRN 342648-11-7

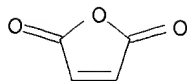
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CM 3

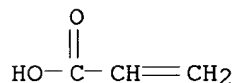
CRN 108-31-6

CMF C4 H2 O3



CM 4

CRN 79-10-7
CMF C3 H4 O2



AB The compns. comprise (A) photoacid generators, (B) resins contg. alicyclic hydrocarbon structures, which increase their alkali soly. by acid decompn., (C) base compds., and (D) fluoro- and/or silicone-based surfactants, wherein the photoacid generator is a mixt. of triarylsulfonium salts and non-arom. sulfonium salts. The compns. are useful for chem. amplified photoresists suitable for halftone phase-shift masks.

L30 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 7

ACCESSION NUMBER: 2002:673045 CAPLUS

DOCUMENT NUMBER: 137:224107

TITLE: Chemically amplified positive-working far-UV photoresist compositions suitable for halftone phase-shift masks

INVENTOR(S): Sato, Kenichiro; Uenishi, Kazuya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 104 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

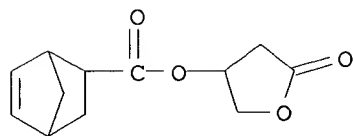
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|---|----------|-----------------|----------|
| JP 2002251011 | A2 | 20020906 | JP 2001-48782 | 20010223 |
| PRIORITY APPLN. INFO.: | | | JP 2001-48782 | 20010223 |
| OTHER SOURCE(S): MARPAT 137:224107 | | | | |
| IT 398140-71-1P 398140-88-0P , tert-Butyl norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl acrylate-norbornenelactone acrylate copolymer 398141-14-5P | | | | |
| RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) | | | | |
| (chem. amplified pos.-working far-UV photoresists suitable for halftone phase-shift masks) | | | | |
| RN | 398140-71-1 CAPLUS | | | |
| CN | Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1 ^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME) | | | |

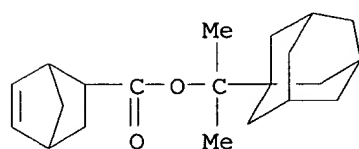
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CRN 398140-70-0
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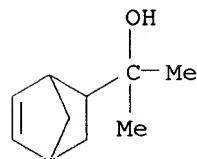
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CRN 328087-76-9
CMF C21 H30 O2



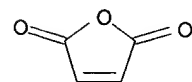
CM 3

CRN 22497-08-1
CMF C10 H16 O



CM 4

CRN 108-31-6
CMF C4 H2 O3

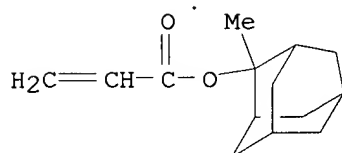


RN 398140-88-0 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-
yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

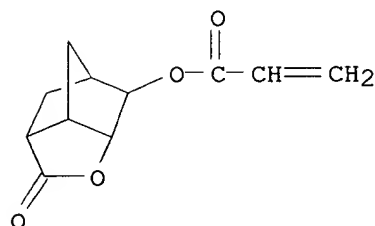
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CM 2

CRN 242129-35-7

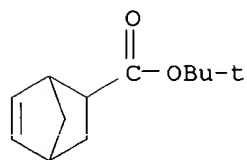
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CM 3

CRN 154970-45-3

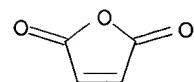
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



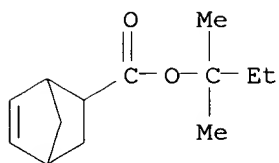
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

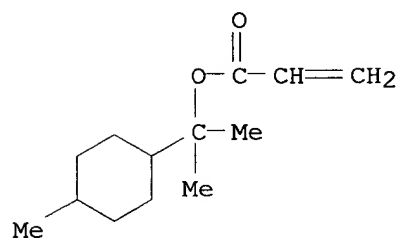
CMF C13 H20 O2



CM 2

CRN 342648-11-7

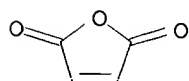
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CM 3

CRN 108-31-6

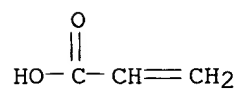
CMF C4 H2 O3



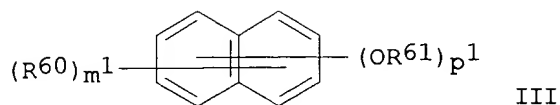
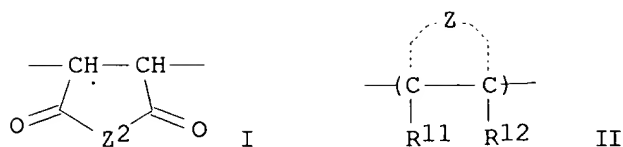
CM 4

CRN 79-10-7

CMF C3 H4 O2



GI



AB The compns. comprise (A) polymers with acid-decomposable groups comprising repeating units CH(COXAR1)CH(COXAR2) (R1, R2 = H, cyano, OH, CO2H, etc.) and/or I (Z2 = O, NR3; R3 = H, OH, alkyl, haloalkyl, etc.) and other repeating units II (R11, R12 = H, cyano, halo, alkyl; Z = at. group contg. C2 linkage for forming alicyclic structure), (B) dissoln. inhibitors R[X(CR51R52)q1CO2R']n1 (X = O, S, NR53, single linkage; R51-53 = H, alkyl; R' = acid-decomposable group as CO2R'; R = n1-valent residue of bridged hydrocarbon, satd. hydrocarbon, naphthalene; n1 = 1-4; q1 = 0-10) or III (R60 = alkyl, halo; R61 = acid-decomposable group as OR61; m1 = 0-4; p1 = 1-4), and (C) imido sulfonate photoacid generators. The compns. may further contain sulfonium salt photoacid generators.

L30 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 8

ACCESSION NUMBER: 2002:592336 CAPLUS

DOCUMENT NUMBER: 137:147763

TITLE: Chemically amplified positive-working photoresist composition providing fine resolution patterns

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 94 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------|------|----------|-----------------|----------|
| JP 2002221796 | A2 | 20020809 | JP 2001-18868 | 20010126 |
| PRIORITY APPLN. INFO.: | | | JP 2001-18868 | 20010126 |
| OTHER SOURCE(S): MARPAT 137:147763 | | | | |

IT **398140-88-0P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(in chem. amplified pos.-working photoresist compn. for far-UV exposure)

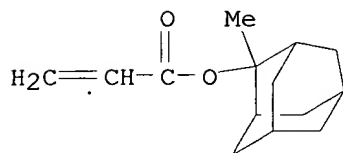
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid; 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

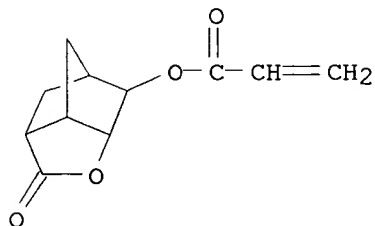
CMF C14 H20 O2



CM 2

CRN 242129-35-7

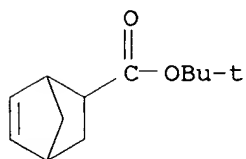
CMF C11 H12 O4



CM 3

CRN 154970-45-3

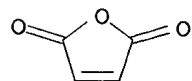
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CM 4

CRN 108-31-6

CMF C4 H2 O3



IT 398141-14-5

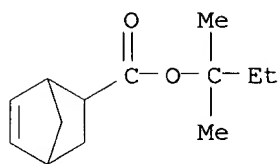
RL: TEM (Technical or engineered material use); USES (Uses)
(in chem. amplified pos.-working photoresist compn. for far-UV exposure)

RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

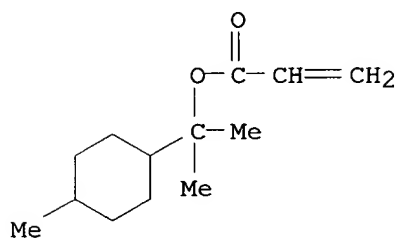
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CRN 398140-58-4
CMF C13 H20 O2



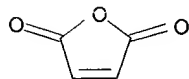
CM 2

CRN 342648-11-7
CMF C13 H22 O2



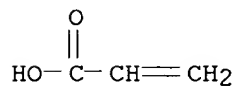
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CRN 108-31-6
CMF C4 H2 O3

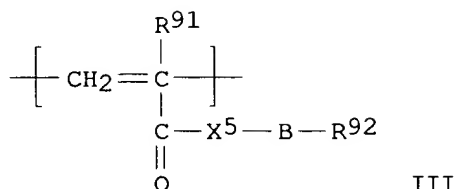
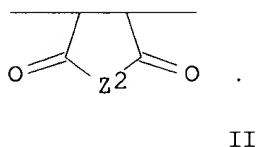
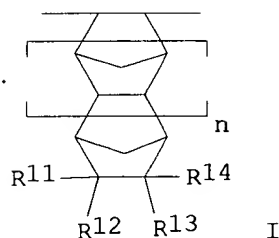


CM 4

CRN 79-10-7
CMF C3 H4 O2



GI



AB The photoresist compn., used in fabrication of semiconductor devices, contains a photoacid generator, a polymer increasing the soly. in an alkali developer by reaction with an acid and having repeating groups I, II, and III [R11-14 = acid-decomposable group, H, halo, cyano, CO₂H, etc.; .gtoreq.2 of R11-14 may form a ring; n = 0, 1; Z₂ = O, N(R₄₁); R₄₁ = H, OH, (halo)alkyl, etc.; R₉₁ = H, lower alkyl, halo, CN; X₅ = O, S, etc.; R₉₂ = H, cyclic or chain alkyl, alkoxy, OH, etc.], and a compd. contg. CON(OH) group. The photoresist compn., esp. when using an ArF excimer laser, provides excellent post exposure delay (PED) stability and profiles and inhibits shortening of line pattern edges.

L30 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 9
 ACCESSION NUMBER: 2002:566567 CAPLUS
 DOCUMENT NUMBER: 137:132103
 TITLE: Positive-working photoresist composition
 INVENTOR(S): Fujimori, Toru
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 93 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2002214787 | A2 | 20020731 | JP 2001-13298 | 20010122 |
| PRIORITY APPLN. INFO.: | | | JP 2001-13298 | 20010122 |

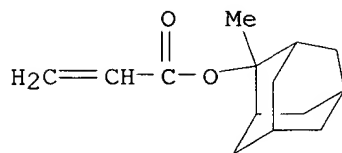
IT **398140-88-0P 398141-14-5P**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resin in pos.-working photoresist compn.)

RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

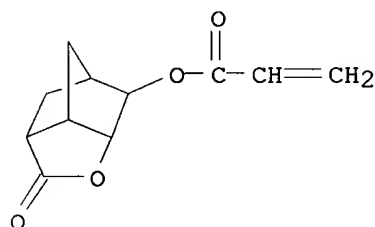
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CRN 249562-06-9
CMF C14 H20 O2



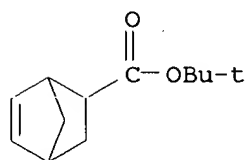
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CMF C11 H12 O4



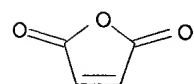
CM 3

CRN 154970-45-3
CMF C12 H18 O2



CM 4

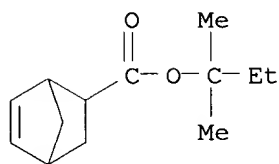
CRN 108-31-6
CMF C4 H2 O3



RN 398141-14-5 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

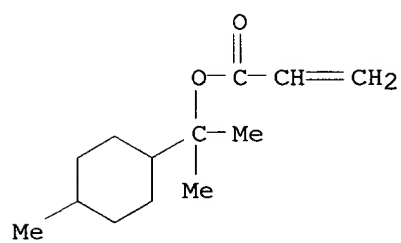
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CRN 398140-58-4
CMF C13 H20 O2



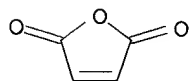
CM 2

CRN 342648-11-7
CMF C13 H22 O2



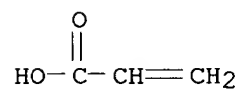
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CRN 108-31-6
CMF C4 H2 O3

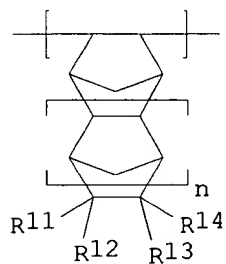


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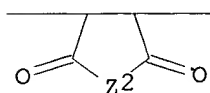
CRN 79-10-7
CMF C3 H4 O2



GI



I



II

AB The title compn. contains a light- or radiation-sensitive acid generator, a resin increasing soly. rate in an alkali developer by an acid, and a compd. having an acid-sensitive group, wherein the resin has repeating group I(R11-14 = acid-sensitive group, H, halo, cyano, etc.; n = 0, 1), II(Z2 = -O-, -N(R41)-; R41 = H, OH, alkyl, etc.), and [CH2-C(R91)(CO-X5-B-R92)](R91= H, lower alkyl, halo, -CN; X5 = -O-, -S-, -NR93; R93 = H, chain or cyclic alkyl; B = single bond, connecting group; R92 = H, chain or cyclic alkyl, alkoxy, carboxy, etc.) and wherein the compd. having the acid-sensitive group generates a group, which is sol. in the alkali developer or more sol. in the alkali developer before the acid reaction. The compn. shows the improved stability during the post exposure delay(PED).

L30 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 10

ACCESSION NUMBER: 2002:566566 CAPLUS

DOCUMENT NUMBER: 137:132102

TITLE: Positive-working photoresist composition

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 78 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2002214786 | A2 | 20020731 | JP 2001-10481 | 20010118 |
| PRIORITY APPLN. INFO.: | | | JP 2001-10481 | 20010118 |

IT **398140-88-0P 398141-14-5P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resin in pos.-working photoresist compn.)

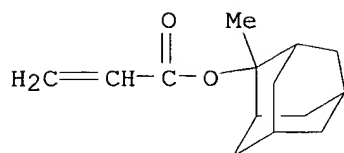
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

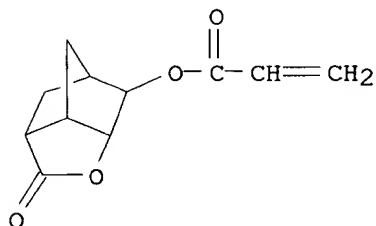
CMF C14 H20 O2



CM 2

CRN 242129-35-7

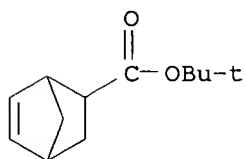
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CM 3

CRN 154970-45-3

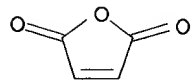
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



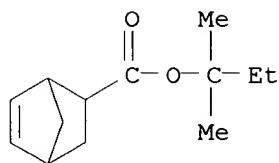
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

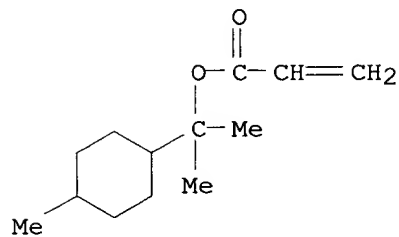
CMF C13 H20 O2



CM 2

CRN 342648-11-7

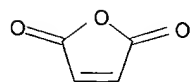
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CM 3

CRN 108-31-6

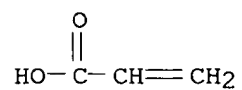
CMF C4 H2 O3



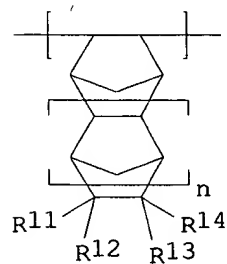
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CRN 79-10-7

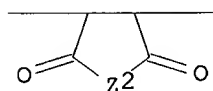
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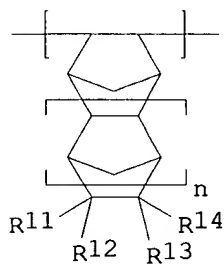
GI



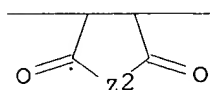
I



II



I



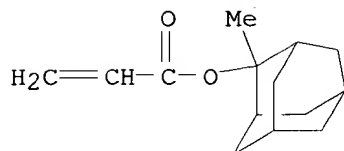
II

AB The title compn. contains a light- or radiation-sensitive acid generator, a resin increasing soly. rate in an alkali developer by an acid, and a basic compd. not contg. an arom. group, wherein the resin has repeating group I(R11-14 = acid-sensitive group, H, halo, cyano, etc.; n = 0, 1), II(Z2 = -O-, -N(R41)-; R41 = H, OH, alkyl, etc.), and [CH2-C(R91)(CO-X5-B-R92)](R91= H, lower alkyl, halo, -CN; X5 = -O-, -S-, -NR93; R93 = H, chain or cyclic alkyl; B = single bond, connecting group; R92 = H, chain or cyclic alkyl, alkoxy, carboxy, etc.). The compn. shows the improved stability during the post exposure delay(PED).

L30 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 11
 ACCESSION NUMBER: 2002:538441 CAPLUS
 DOCUMENT NUMBER: 137:116950
 TITLE: Chemically amplified far-UV positive photoresists compositions with improved exposure margin and defocus latitude
 INVENTOR(S): Sato, Kenichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2002202607 | A2 | 20020719 | JP 2000-402246 | 20001228 |

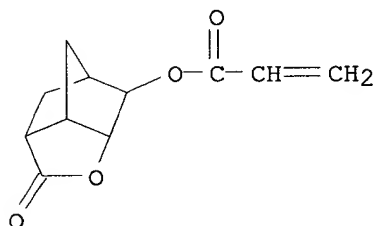
PRIORITY APPLN. INFO.: JP 2000-402246 20001228
 OTHER SOURCE(S): MARPAT 137:116950
 IT **398140-88-0P**, tert-Butyl norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl acrylate-norbornenelacton acrylate copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (far-UV pos. photoresists having sulfonium and iodonium photoacid generators with improved exposure margin and defocus latitude)
 RN 398140-88-0 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)
 CM 1
 CRN 249562-06-9
 CMF C14 H20 O2



CM 2

CRN 242129-35-7

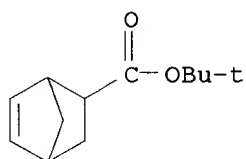
CMF C11 H12 O4



CM 3

CRN 154970-45-3

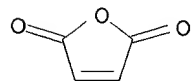
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



IT 398141-14-5

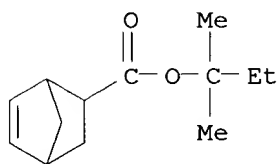
RL: TEM (Technical or engineered material use); USES (Uses)
(far-UV pos. photoresists having sulfonium and iodonium photoacid
generators with improved exposure margin and defocus latitude)

RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

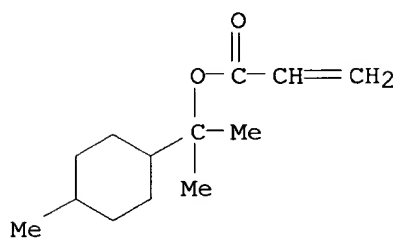
CM 1

CRN 398140-58-4
CMF C13 H20 O2



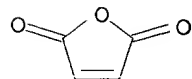
CM 2

CRN 342648-11-7
CMF C13 H22 O2



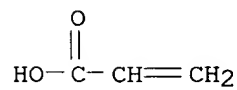
CM 3

CRN 108-31-6
CMF C4 H2 O3

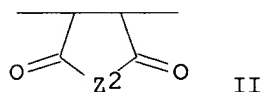
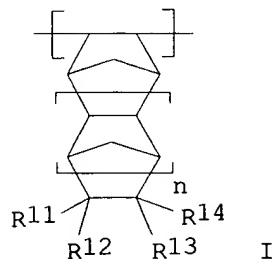


CM 4

CRN 79-10-7
CMF C3 H4 O2



GI



AB The resist compns. comprise (A) photoacid generators Q1Q2Q3S+X- [Q1-3 = (un)substituted phenyl; substituent = H, alkyl, alkoxy, OH, halo, SR; R = alkyl, aryl; X = RFSO3; RF = C.gtoREQ.2-fluoroalkyl], X-Y1S+(Y2)Z1SZ2S+Y3Y4X- [Y1-4 = (un)substituted Ph (max. 2 substituents); Z1, Z2 = (un)substituted phenylene (max. 2 substituents); substituent, X = same as above], and Q4I+Q5X- [Q4, Q5 = (un)substituted phenyl; substituent, X = same as above] and (B) resins, which become alkali-sol. by acid decompn., comprising repeating units I (R11-14 = acid-decomposable group, H, halo, cyano, COOH, etc.; n = 0, 1), II (Z2 = O, NR41; R41 = H, OH, alkyl, haloalkyl, OSO2R42; R42 = alkyl, haloalkyl, etc.), and CH2CR91COX5BR92 (R91 = H, lower alkyl, halo, CN; X5 = O, S, NR93, NR93SO2; R93 = H, alkyl; B = single bond, linking group; R92 = H, alkyl, alkoxy, OH, etc.).

L30 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 12
 ACCESSION NUMBER: 2002:538440 CAPLUS
 DOCUMENT NUMBER: 137:116949
 TITLE: Storage-stable chemically amplified far-UV positive photoresists compositions with good sensitivity and no aggregation
 INVENTOR(S): Sato, Kenichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2002202606 | A2 | 20020719 | JP 2000-402245 | 20001228 |
| PRIORITY APPLN. INFO.: | | | JP 2000-402245 | 20001228 |

IT **398140-88-0P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

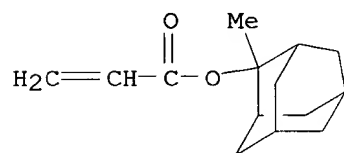
(storage-stable far-UV pos. photoresist compns. in solvents with good

soly.)
 RN 398140-88-0 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
 polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
 cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-
 yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

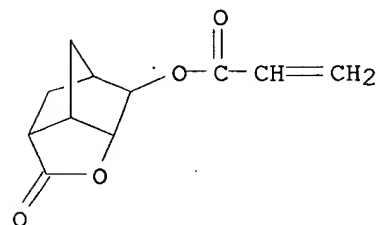
CMF C14 H20 O2



CM 2

CRN 242129-35-7

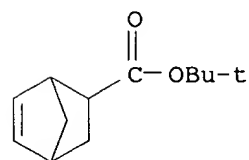
CMF C11 H12 O4



CM 3

CRN 154970-45-3

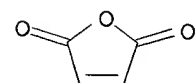
CMF C12 H18 O2

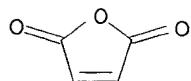


CM 4

CRN 108-31-6

CMF C4 H2 O3





IT 398141-14-5

RL: TEM (Technical or engineered material use); USES (Uses)
(storage-stable far-UV pos. photoresist compns. in solvents with good
soly.)

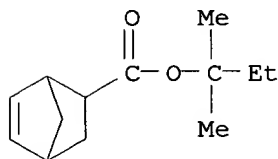
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

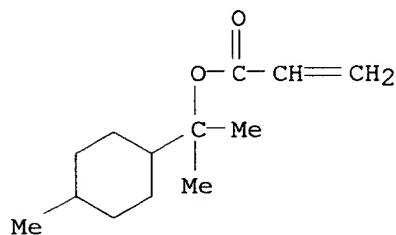
CMF C13 H20 O2



CM .2

CRN 342648-11-7

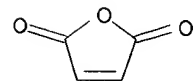
CMF C13 H22 O2



CM 3

CRN 108-31-6

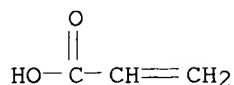
CMF C4 H2 O3



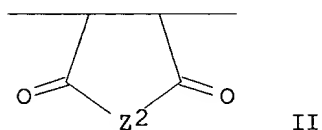
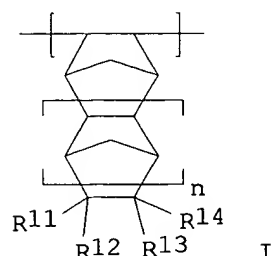
CM 4

CRN 79-10-7

CMF C3 H4 O2



GI



AB The resist compns., useful for contact hole formation in semiconductor device fabrication, comprise (A) photoacid generators, (B) resins, which become alkali-sol. by acid decompn., comprising repeating units I (R11-14 = acid-decomposable group, H, halo, cyano, COOH, etc.; n = 0, 1), II (Z2 = O, NR41; R41 = H, OH, alkyl, haloalkyl, OSO2R42; R42 = alkyl, haloalkyl, etc.), and CH2CR91COX5BR92 (R91 = H, lower alkyl, halo, CN; X5 = O, S, NR93, NR93SO2; R93 = H, alkyl; B = single bond, linking group; R92 = H, alkyl, alkoxy, OH, etc.), and (C) mixed solvents comprising 1st solvents of propylene glycol monoalkyl ether alkoxylates and 2nd solvents selected from propylene glycol monoalkyl ethers, alkyl lactates, and alkyl alkoxypropionates or, instead of the 2nd solvents, 3rd solvents selected from .gamma.-butyrolactone, ethylene carbonate, and propylene carbonate. The solvents may comprise .gtoreq.1 solvents selected from each of the 1st, 2nd, and 3rd solvent groups.

L30 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 13
 ACCESSION NUMBER: 2002:539335 CAPLUS
 DOCUMENT NUMBER: 137:101423
 TITLE: Storage-stable chemically amplified far-UV positive photoresist compositions suitable for half-tone phase-shift photomasks
 INVENTOR(S): Sato, Kenichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 2002202605 | A2 | 20020719 | JP 2000-402244 | 20001228 |
| PRIORITY APPLN. INFO.: | | | JP 2000-402244 | 20001228 |
| OTHER SOURCE(S): | | | MARPAT 137:101423 | |

IT **398140-88-0P**
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (storage-stable far-UV pos. photoresists contg. triphenylsulfonium photoacid generators for half-tone phase-shift photomasks)

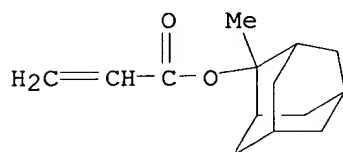
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-
yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

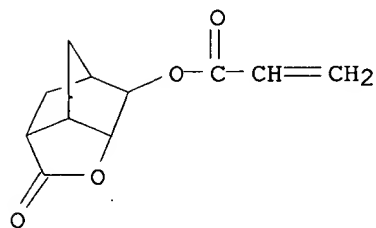
CMF C14 H20 O2



CM 2

CRN 242129-35-7

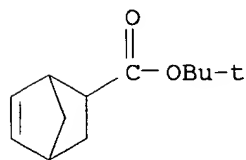
CMF C11 H12 O4



CM 3

CRN 154970-45-3

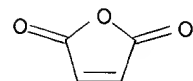
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



IT 398141-14-5

RL: TEM (Technical or engineered material use); USES (Uses)
(storage-stable far-UV pos. photoresists contg. triphenylsulfonium
photoacid generators for half-tone phase-shift photomasks)

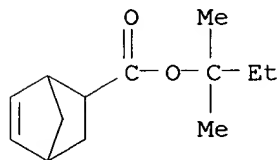
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

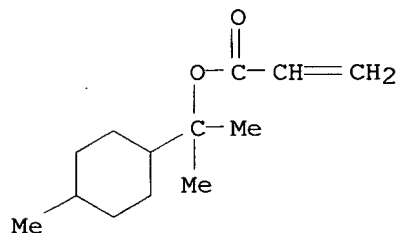
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CM 2

CRN 342648-11-7

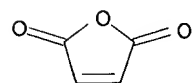
CMF C13 H22 O2



CM 3

CRN 108-31-6

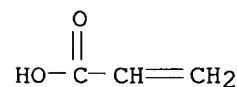
CMF C4 H2 O3

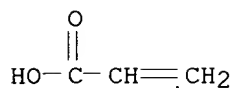


CM 4

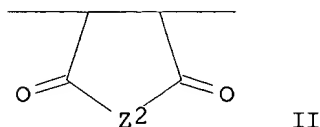
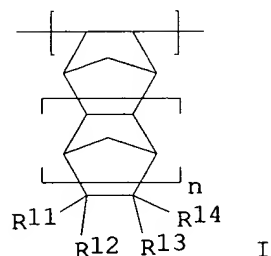
CRN 79-10-7

CMF C3 H4 O2





GI



AB The resist compns. comprise (A) photoacid generators [C6H5-1Rs41S(C6H5-nRs6n)C6H5-mRs5m]+Xs- (Rs4, Rs5, Rs6 = alkyl, cycloalkyl, alkoxy, OH, etc.; 1 = 1-5; m, n = 0-5; Xs- = RSO3-; R = aliph. or arom. hydrocarbon group) and (B) resins comprising repeating units I (R11-14 = acid-decomposable group, H, halo, cyano, COOH, etc.; n = 0, 1), II (Z2 = O, NR41; R41 = H, OH, alkyl, haloalkyl, OSO2R42; R42 = alkyl, haloalkyl, etc.), and CH2CR91COX5BR92 (R91 = H, lower alkyl, halo, CN; X5 = O, S, NR93, NR93SO2; R93 = H, alkyl; B = single bond, linking group; R92 = H, alkyl, alkoxy, OH, etc.), wherein the resins become alkali-sol. by acid decompn.

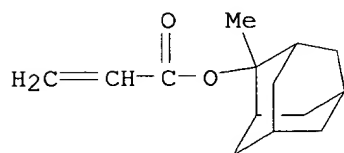
L30 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 14
 ACCESSION NUMBER: 2002:237124 CAPLUS
 DOCUMENT NUMBER: 136:286589
 TITLE: Positive-working chemically amplified photoresist composition containing specific acid-sensitive resin and specific nitrogen-containing compound for semiconductor device fabrication
 INVENTOR(S): Fujimori, Toru; Kawabe, Yasumasa; Nakao, Hajime
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 92 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|--|----------|-----------------|------------|
| JP 2002090987 | A2 | 20020327 | JP 2001-209543 | 20010710 |
| US 2002155383 | A1 | 20021024 | US 2001-902793 | 20010712 |
| PRIORITY APPLN. INFO.: | | | JP 2000-211642 | A 20000712 |
| OTHER SOURCE(S): MARPAT 136:286589 | | | | |
| IT 398140-88-0P 398141-14-5P | | | | |
| RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) | | | | |
| (resin in pos.-working photoresist compn.) | | | | |
| RN | 398140-88-0 CAPLUS | | | |
| CN | Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME) | | | |

CM 1

CRN 249562-06-9

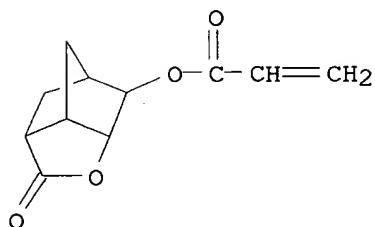
CMF C14 H20 O2



CM 2

CRN 242129-35-7

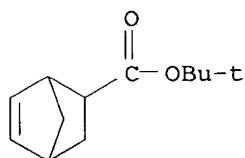
CMF C11 H12 O4



CM 3

CRN 154970-45-3

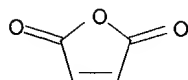
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



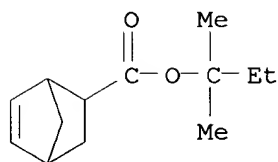
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

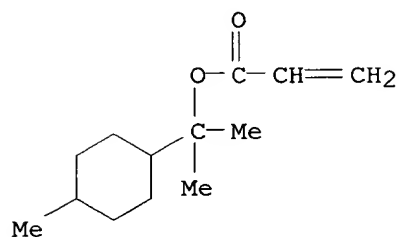
CMF C13 H20 O2



CM 2

CRN 342648-11-7

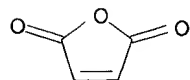
CMF C13 H22 O2



CM 3

CRN 108-31-6

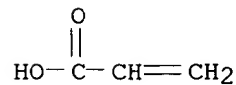
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



AB The title compn. contains a resin, which has an alicyclic hydrocarbon group, increasing the soly. rate in an alkali by reacting with an acid, a photo-acid generator, and a nitrogen-contg. compd., wherein the nitrogen-contg. compd. has group -C(=O)-N(OH)-. The compn. provides the improved line-edge roughness on the photoresist.

L30 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 15
 ACCESSION NUMBER: 2002:904448 CAPLUS
 DOCUMENT NUMBER: 138:9656
 TITLE: Positive photosensitive composition
 INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro; Fujimori, Toru
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 145 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|------------|
| EP 1260864 | A1 | 20021127 | EP 2002-11516 | 20020522 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2002351077 | A2 | 20021204 | JP 2001-152587 | 20010522 |
| JP 2002351079 | A2 | 20021204 | JP 2001-155897 | 20010524 |
| JP 2002351063 | A2 | 20021204 | JP 2001-159060 | 20010528 |
| PRIORITY APPLN. INFO.: | | | JP 2001-152587 | A 20010522 |
| | | | JP 2001-155897 | A 20010524 |
| | | | JP 2001-159060 | A 20010528 |

OTHER SOURCE(S): MARPAT 138:9656

IT **398140-71-1P 398140-88-0P 398141-14-5P 454470-67-8P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resin; pos photoresist compn. contg.)

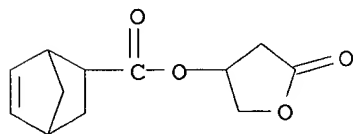
RN 398140-71-1 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)
 (CA INDEX NAME)

CM 1

CRN 398140-70-0

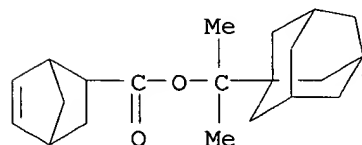
CMF C12 H14 O4

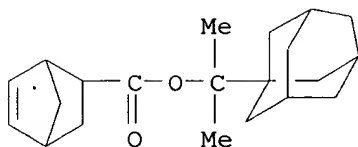


CM 2

CRN 328087-76-9

CMF C21 H30 O2

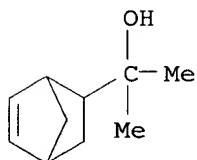




CM 3

CRN 22497-08-1

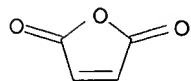
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



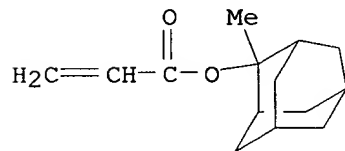
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

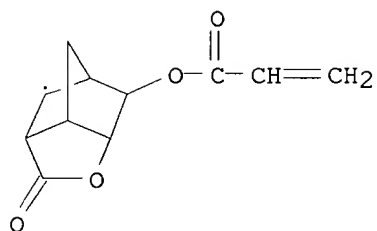
CMF C14 H20 O2



CM 2

CRN 242129-35-7

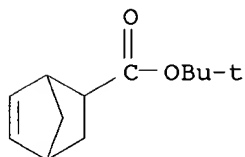
CMF C11 H12 O4



CM 3

CRN 154970-45-3

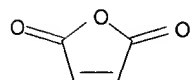
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CM 4

CRN 108-31-6

CMF C4 H2 O3



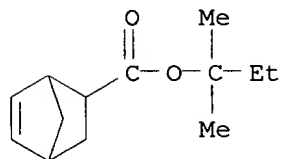
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

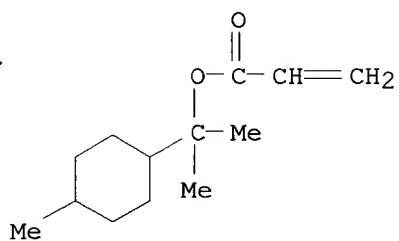
CMF C13 H20 O2



CM 2

CRN 342648-11-7

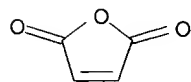
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CM 3

CRN 108-31-6

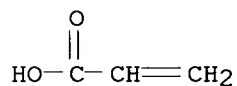
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



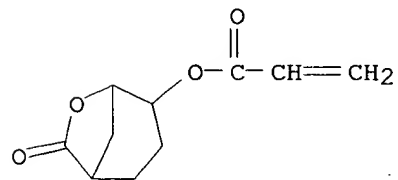
RN 454470-67-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 7-oxo-6-oxabicyclo[3.2.1]oct-4-yl 2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 398140-83-5

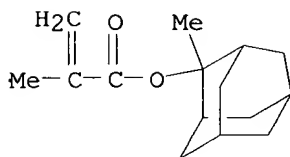
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CM 2

CRN 177080-67-0

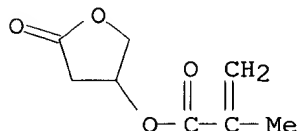
CMF C15 H22 O2



CM 3

CRN 130224-95-2

CMF C8 H10 O4



AB A pos. photosensitive compn. comprises (A) a specific acid generator that generates an acid upon irradiation of an actinic ray or radiation, and (B) a resin that has a monocyclic or polycyclic alicyclic hydrocarbon structure and is decomposed by the action of an acid to increase solubility in an alkali developing solution.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 16

ACCESSION NUMBER: 2002:119352 CAPLUS

DOCUMENT NUMBER: 136:175472

TITLE: Positive photosensitive composition for photofabrication using deep UV ray

INVENTOR(S): Kodama, Kunihiko; Aoi, Toshiaki

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 120 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| EP 1179750 | A1 | 20020213 | EP 2001-117796 | 20010802 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2002122994 | A2 | 20020426 | JP 2001-188670 | 20010621 |
| US 2002051933 | A1 | 20020502 | US 2001-921691 | 20010806 |
| US 6492091 | B2 | 20021210 | | |

PRIORITY APPLN. INFO.: JP 2000-240059 A 20000808

IT 398140-71-1P 398140-88-0P 398141-14-5P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resin; deep UV photofabrication pos. photoresist compn. contg.)

RN 398140-71-1 CAPLUS

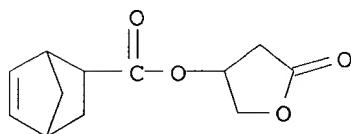
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-tricyclo[3.3.1.1.3,7]dec-1-ylethyl ester, polymer with .alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol, 2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)

(CA INDEX NAME)

CM 1

CRN 398140-70-0

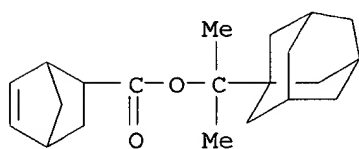
CMF C12 H14 O4



CM 2

CRN 328087-76-9

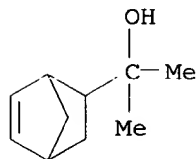
CMF C21 H30 O2



CM 3

CRN 22497-08-1

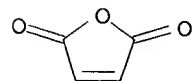
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



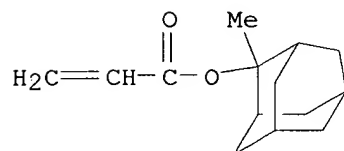
RN 398140-88-0 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

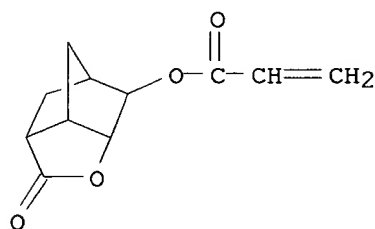
CMF C14 H20 O2



CM 2

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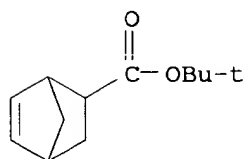
CMF C11 H12 O4



CM 3

CRN 154970-45-3

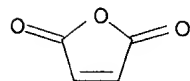
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



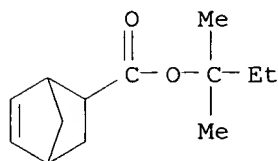
RN 398141-14-5 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

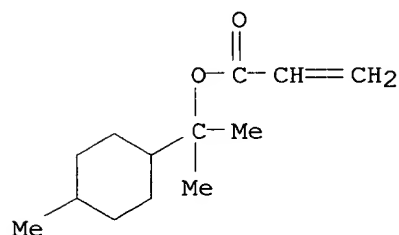
CMF C13 H20 O2



CM 2

CRN 342648-11-7

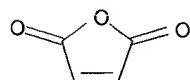
CMF C13 H22 O2



CM 3

CRN 108-31-6

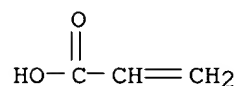
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



AB A pos. photosensitive compn. comprises: (A) a compd. generating an acid upon irradiation with one of an actinic ray and radiation; (B) a resin containing a monocyclic or polycyclic alicyclic hydrocarbon structure and increasing the solubility to an alkali developer by the action of an acid; and (C) an onium salt of carboxylic acid. The present invention relates to a positive photosensitive compound for use in the production process of a semiconductor such as IC, in the production of a circuit board such as liquid crystal and

thermal head, and in other photofabrication processes.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 17 OF 20 USPATFULL

ACCESSION NUMBER: 2002:279949 USPATFULL
TITLE: Positive resist composition
INVENTOR(S): Fujimori, Toru, Shizuoka, JAPAN
Kawabe, Yasumasa, Shizuoka, JAPAN
Nakao, Hajime, Shizuoka, JAPAN
PATENT ASSIGNEE(S): FUJI PHOTO FILM CO., LTD. (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 2002155383 | A1 | 20021024 |
| APPLICATION INFO.: | US 2001-902793 | A1 | 20010712 (9) |

| | NUMBER | DATE |
|-----------------------|---|----------|
| PRIORITY INFORMATION: | JP 2000-211642 | 20000712 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | SUGHRUE, MION, ZINN,, MACPEAK & SEAS, PLLC, 2100 Pennsylvania Avenue, NW, Washington, DC, 20037-3213 | |
| NUMBER OF CLAIMS: | 17 | |
| EXEMPLARY CLAIM: | 1 | |
| LINE COUNT: | 2009 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

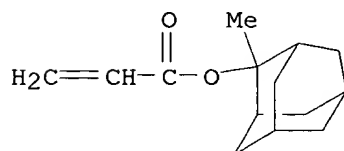
IT **398140-88-0P 398141-14-5P**
(resin in pos.-working photoresist compn.)

RN 398140-88-0 USPATFULL

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-
2-yl 2-propenoate (9CI) (CA INDEX NAME)

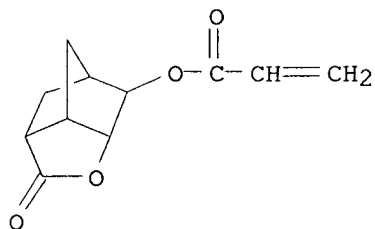
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CRN 249562-06-9
CMF C14 H20 O2



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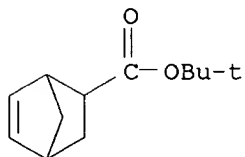
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CMF C11 H12 O4



CM 3

CRN 154970-45-3

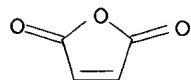
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



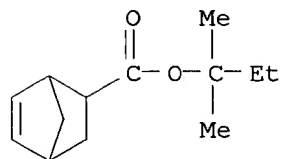
RN 398141-14-5 USPATFULL

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

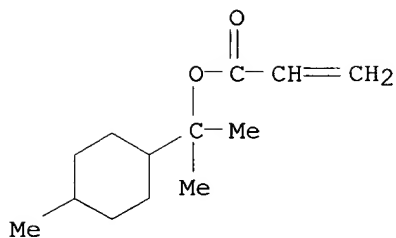
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CM 2

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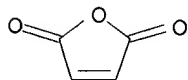
CMF C13 H22 O2



CM 3

CRN 108-31-6

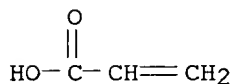
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



AB A positive resist composition comprises: (A) a resin having an aliphatic cyclic hydrocarbon group and increasing the solubility to an alkali developer by the action of an acid; (B) a compound generating an acid upon irradiation with an actinic ray or radiation; and (C) a nitrogen-containing compound having in the molecule at least one partial structure represented by following formula (I). ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L30 ANSWER 18 OF 20, USPATFULL

ACCESSION NUMBER: 2002:99037 USPATFULL

TITLE: Positive photosensitive composition

INVENTOR(S): Kodama, Kunihiro, Shizuoka, JAPAN

Aoi, Toshiaki, Shizuoka, JAPAN

PATENT ASSIGNEE(S): FUJI PHOTO FILM CO., LTD. (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 2002051933 | A1 | 20020502 |
| | US 6492091 | B2 | 20021210 |
| APPLICATION INFO.: | US 2001-921691 | A1 | 20010806 (9) |

| | NUMBER | DATE |
|-----------------------|----------------|----------|
| PRIORITY INFORMATION: | JP 2000-240059 | 20000808 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |

LEGAL REPRESENTATIVE: SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC, 2100
Pennsylvania Avenue, N.W., Washington, DC, 20037

NUMBER OF CLAIMS: 20

EXEMPLARY CLAIM: 1

LINE COUNT: 2260

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **398140-71-1P 398140-88-0P 398141-14-5P**

(resin; deep UV photofabrication pos. photoresist compn. contg.)

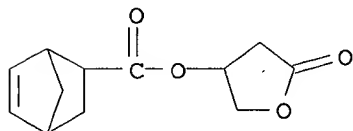
RN 398140-71-1 USPTFULL

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methyl-1-
tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with
.alpha.,.alpha.-dimethylbicyclo[2.2.1]hept-5-ene-2-methanol,
2,5-furandione and tetrahydro-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-
carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 398140-70-0

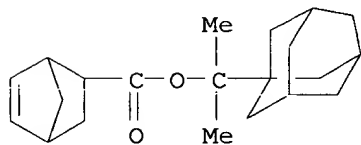
CMF C12 H14 O4



CM 2

CRN 328087-76-9

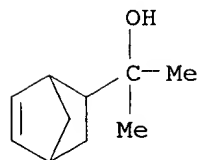
CMF C21 H30 O2



CM 3

CRN 22497-08-1

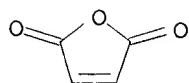
CMF C10 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



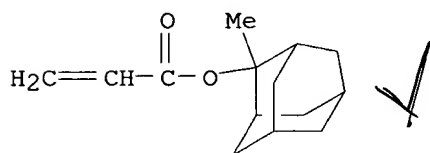
RN 398140-88-0 USPATFULL

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-
2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

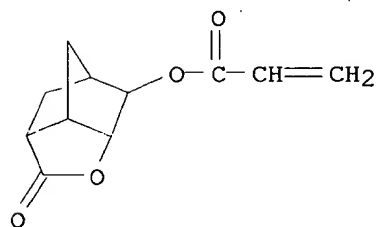
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CM 2

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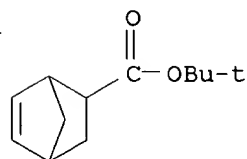
CMF C11 H12 O4



CM 3

CRN 154970-45-3

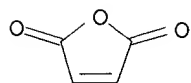
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



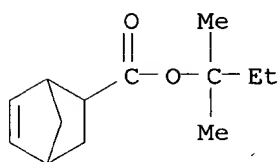
RN 398141-14-5 USPATFULL

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester,
polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl
2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 398140-58-4

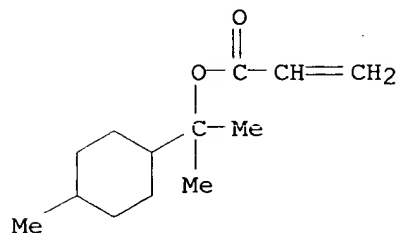
CMF C13 H20 O2



CM 2

CRN 342648-11-7

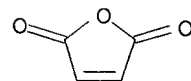
CMF C13 H22 O2



CM 3

CRN 108-31-6

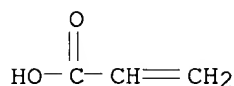
CMF C4 H2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2

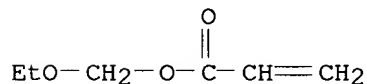


AB A positive photosensitive composition comprises: (A) a compound generating an acid upon irradiation with one of an actinic ray and radiation; (B) a resin containing a monocyclic or polycyclic alicyclic hydrocarbon structure and increasing the solubility to an alkali developer by the action of an acid; and (C) an onium salt of carboxylic acid.

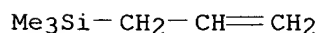
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

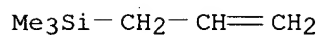
L30 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 17
 ACCESSION NUMBER: 2001:496392 CAPLUS
 DOCUMENT NUMBER: 135:99845
 TITLE: Positive-working photoresist composition containing alkali-soluble polymer with silyl group
 INVENTOR(S): Mizutani, Kazuyoshi; Yanami, Shoichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION: 7/10/01

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|--|-----------------------|-----------------|------------|
| JP 2001188349 | A2 | 2001-07-10 | JP 2000-303876 | 20001003 |
| PRIORITY APPLN. INFO.: | | | JP 1999-298606 | A 19991020 |
| IT 336609-27-9P 348129-27-1P 348129-35-1P 349477-30-1P | | | | |
| RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (pos.-working photoresist compn. contg. binder with silyl group, acid generator, org. base, and surfactant) | | | | |
| RN | 336609-27-9 CAPLUS | | | |
| CN | 2-Propenoic acid, ethoxymethyl ester, polymer with 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME) | | | |
| CM | 1 | | | |
| CRN | 101181-06-0 | | | |
| CMF | C6 H10 O3 | | | |



CM 2
 CRN 762-72-1
 CMF C6 H14 Si

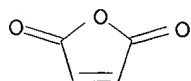




CM 3

CRN 108-31-6

CMF C4 H2 O3



✓

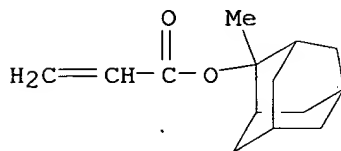
RN 348129-27-1 CAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

CMF C14 H20 O2



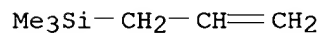
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CM 2

CRN 762-72-1

CMF C6 H14 Si

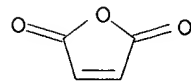
✓



CM 3

CRN 108-31-6

CMF C4 H2 O3



✓

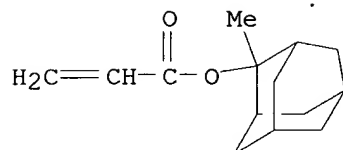
RN 348129-35-1 CAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2,5-furandione, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

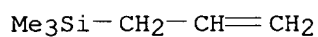
CMF C14 H20 O2



CM 2

CRN 762-72-1

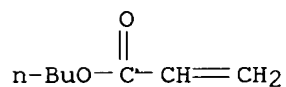
CMF C6 H14 Si



CM 3

CRN 141-32-2

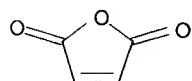
CMF C7 H12 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



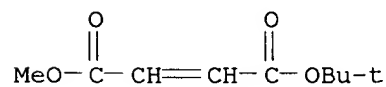
RN 349477-30-1 CAPLUS

CN 2-Butenedioic acid, 1,1-dimethylethyl methyl ester, polymer with 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 349477-29-8

CMF C9 H14 O4



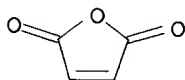
CM 2

CRN 762-72-1
CMF C6 H14 Si

Me₃Si-CH₂-CH=CH₂

CM 3

CRN 108-31-6
CMF C4 H2 O3



AB The compn. comprises (A) a binder resin having a repeating unit bearing a structure (CH₂)_nSiR₁R₂R₃ (R₁-3 = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, trialkylsilyloxy; n = 0, 1) and a repeating unit bearing a group which decomps. by the action of an acid and increases the soly. in an alk. developer at the side chain, (B) a compd. generating an acid by the action of an actinic ray or radiation, (C) a solvent dissolving A and B, (D) an org. base compd., (E) a surfactant selected from a fluorosurfactant, a silicone surfactant, and a nonionic surfactant. The compn. shows high resoln. and gives patterns with rectangular cross section and is useful for manuf. of semiconductor device.

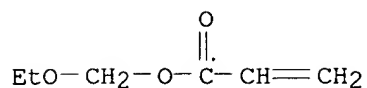
L30 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 18
ACCESSION NUMBER: 2001:496391 CAPLUS
DOCUMENT NUMBER: 135:99844
TITLE: Positive-working photoresist composition containing vinyl copolymer with silyl group
INVENTOR(S): Mizutani, Kazuyoshi; Yasunami, Shouichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| JP 2001188348 | A2 | 20010710 | JP 2000-303875 | 20001003 |
| PRIORITY APPLN. INFO.: | | | JP 1999-298606 | A 19991020 |

IT 336609-27-9P 348129-27-1P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-working photoresist compn. contg. vinyl copolymer with silyl group and acid generator)
RN 336609-27-9 CAPLUS
CN 2-Propenoic acid, ethoxymethyl ester, polymer with 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

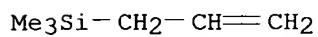
CRN 101181-06-0
CMF C6 H10 O3



CM 2

CRN 762-72-1

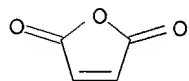
CMF C6 H14 Si



CM 3

CRN 108-31-6

CMF C4 H2 O3



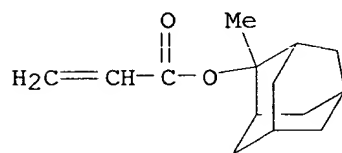
RN 348129-27-1 CAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

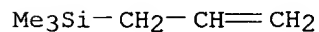
CMF C14 H20 O2



CM 2

CRN 762-72-1

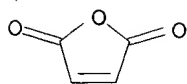
CMF C6 H14 Si



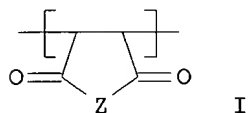
CM 3

CRN 108-31-6

CMF C4 H2 O3



GI



I

AB The photoresist compn. comprises (A) a binder resin whose soly. in an alk. developer increases by the action of an acid and having repeating units $\text{CH}_2\text{CH}[(\text{CH}_2)_n\text{SiR}_1\text{R}_2\text{R}_3]$ ($\text{R}_1\text{-3}$ = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, trialkylsilyloxy; $n = 0,1$) $\text{CH}_2\text{CY}(\text{LCO}_2\text{Q})$ ($\text{Y} = \text{H, Me, cyano, Cl}$; $\text{L} = \text{bond, divalent linkage,}$; $\text{Q} = \text{C5-20 tert-alkyl, alkoxymethyl, alkoxyethyl, isobornyl}$) and I ($\text{Z} = \text{O, NR}_3$; $\text{R}_3 = \text{H, OH, alkyl, OSO}_2\text{R}_4$; $\text{R}_4 = \text{alkyl, trihalomethyl}$), (B) a compd. generating an acid by the action of an actinic ray or radiation, and (C) a solvent dissolving A and B. The compn. shows high resoln., less disappearance of rough pattern at the resoln. limit, and is useful for manuf. of semiconductor devices.